

II. Non-Art Rejection.

Independent claim 42 has been rewritten to broaden it and provide the basis to overcome the rejection of dependent claim 45 under 35 U.S.C. §112, 2nd ¶.

III. Rejection Based on Hamm and Karabut.

As previously presented, claims 9 and 15-16 were rejected under 35 U.S.C. §103(a) as obvious over U.S. Patent 3,982,991 to Hamm combined with SU 1,118,535 (“Karabut”).

As the Office Action pointed out, Hamm fails to disclose a front jaw release sheet that disengages from the heating element when the front and rear jaws are in the open position, as recited by independent claim 9. (Office Action mailed Oct. 22, 2002 at page 3, lines 8-11.) The Office Action cites Karabut to supplement that shortcoming.

Applicants respectfully submit that a *prima facie* case of obviousness has not been established to shift the burden of rebuttal to the Applicants. One of the requirements of a *prima facie* case of obviousness is that the applied prior art references must teach or suggest *all* of the claim limitations. MPEP §706.02(j).

However, nothing in Hamm or Karabut teaches or suggests that “the resilient portion of the rear jaw faces the heating element,” as recited in amended claim 9. To the direct contrary, Hamm teaches that a “stiff or hard strip 11” covers rubber pad 10 and faces heating element 4. (Column 2, lines 9-12; Fig. 1.)

Also, nothing in Hamm or Karabut teaches or suggests that the “resilient portion conforms to the shape of the heating element when the front and rear jaws are in the closed position,” as recited in amended claim 9. Rather, Hamm teaches that the “structurally rigid” strip 11 faces heating element 4 “so that no indentation or projection occurs into the resilient pad 10” when the jaws are in the closed position. (Column 2, lines 30-35.) Accordingly, since all the claim elements are not taught by the proposed combination, amended claim 9 is patentable over the combination of Hamm and Karabut.

Further, the mere fact that Karabut *could* be combined with Hamm does not render the resultant combination *prima facie* obvious – rather, the prior art must provide the teaching or suggestion supporting the combination. MPEP 2143.01. The Office Action states that the motivation for substituting the anti-adhesion liner 4 of Karabut for the layer 6 of Hamm is a reduction in damage to the front jaw release sheet. (Office Action mailed Oct. 22, 2003 at page 3, lines 19-20.) However, the Office Action has failed to point out *in the prior art* a teaching of such reduction in damage.

To the extent that the Examiner is relying upon common knowledge to establish the substitutability of the anti-adhesion liner 4 of Karabut for the layer 6 of Hamm, Applicants respectfully request that the Examiner supply references to support that position. See MPEP 2144.03.

Because there is no cited authority supporting the proposed reason for modifying Hamm, Applicants respectfully submit that a *prima facie* case of obviousness has not been established. “The factual inquiry whether to combine references must be thorough and searching. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. The need for specificity pervades this authority.” *In re Lee*, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002) (cites omitted). The factual question of motivation to combine cannot be resolved on “subjective belief and unknown authority.” *Id.* at 1434. The best defense against improper hindsight-based obviousness is the requirement for a showing of the teaching or motivation to combine prior art references. *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

A. Dependent Claims 15-16.

Dependent claims 15-16 have additional recitations to those of independent claim 9 and are therefore further patentable over the proposed combination of Hamm and Karabut.

B. Dependent Claims 10-11 and 17.

Dependent claims 10-11 and 17 were rejected on the basis of Hamm and Karabut further combined with The Wiley Encyclopedia of Packaging Technology, "Sealing, Heat," John Wiley & Sons, 1986, Pages 574-578 ("Wiley"). Wiley fails to supplement the above noted shortcomings of the proposed combination of Hamm and Karabut with respect to amended independent claim 9. Since claims 10-11 and 17 depend from and contain additional recitations to those of claim 9, they are further patentable over the proposed combination.

C. Dependent Claims 18-20.

Dependent claims 18-20 were rejected on the basis of Hamm and Karabut further combined with U.S. Patent 3,235,122 to Kochmer. The Office Action states that the Hamm heat sealer "could function effectively" with the thinner resilient pad of Kochmer. (Office Action mailed Oct. 22, 2002 at page 6, lines 1-2.) However, the mere fact that the Hamm heat sealer *could* be modified to have the thinner pad 30 of Kochmer does not render the resultant combination *prima facie* obvious – rather, the prior art must provide the teaching or suggestion supporting the combination. MPEP 2143.01.

In fact, the thinner pad 30 of Kochmer is used in conjunction with a heating element 16 that is *embedded* in the front jaw 10. (Kochmer, Fig. 3.) The thicker pad 10 of Hamm is used in conjunction with a heating element 4 that is *unembedded* in the front jaw 1. (Hamm, Fig. 1.) No reasoning has been set forth on why one would be motivated to use the Kochmer thin pad -- designed for use with an embedded heating element -- with the Hamm *unembedded* heating element.

The factual question of motivation to combine cannot be resolved on "subjective belief and unknown authority." *In re Lee*, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). The best defense against improper hindsight-based obviousness is the requirement for a showing of the teaching or motivation to combine prior art references. *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

Finally, a *prima facie* case of obviousness also requires that the prior art provide a reasonable expectation that the proposed modification will succeed. (MPEP §2142.) The reasonable expectation of success must *not* be based on applicant's disclosure. (*Id.*) In the present case, the Office Action fails to point out any rationale supporting that the proposed modification would reasonably be expected to succeed. The Office Action fails to provide any basis (other than the Applicants' disclosure) for a reasonable expectation that the dimensional relationship between the heating element and the resilient portion, as recited in amended dependent claims 18-20, would be successful.

IV. Rejection Based on Kochmer, Karabut, and Wiley

As originally presented, claims 9, 21, and 48 were rejected under 35 U.S.C. §103(a) as obvious over U.S. Patent 3,235,122 to Kochmer combined with The Wiley Encyclopedia of Packaging Technology, "Sealing, Heat," John Wiley & Sons, 1986, Pages 574-578 ("Wiley") and with Karabut.

As the Office Action pointed out, Kochmer and Wiley fail to disclose a front jaw release sheet that disengages from the heating element when the front and rear jaws are in the open position, as recited by independent claim 9. (Office Action mailed Oct. 22, 2002 at page 7, lines 1-3.) The Office Action cites Karabut to supplement that shortcoming.

Applicants respectfully submit that a *prima facie* obviousness has not been established necessary to shift the burden of rebuttal to Applicants. The mere fact that Karabut *could* be combined with Kochmer and Wiley does not render the resultant combination *prima facie* obvious – rather, the prior art must provide the teaching or suggestion supporting the combination. MPEP 2143.01. The Office Action states that the motivation for incorporating the anti-adhesion liner 4 of Karabut in the Kochmer heat sealer is a reduction in damage to the front jaw release sheet. (Office Action mailed Oct. 22, 2003 at page 6, lines 19-20.) However, the Office Action fails to point out *in the prior art* a teaching of such reduction in damage.

To the extent that the Examiner is relying upon common knowledge to establish that the anti-adhesion liner 4 of Karabut has reduced damage, Applicants respectfully request that

the Examiner supply references to support that position. *See* MPEP 2144.03.

Because there is no cited authority supporting the proposed reason for modifying Kochmer, Applicants respectfully submit that a *prima facie* case of obviousness has not been established. "The factual inquiry whether to combine references must be thorough and searching. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. The need for specificity pervades this authority." *In re Lee*, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002) (cites omitted). The factual question of motivation to combine cannot be resolved on "subjective belief and unknown authority." *Id.* at 1434. The best defense against improper hindsight-based obviousness is the requirement for a showing of the teaching or motivation to combine prior art references. *In re Dembiczak*, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

Dependent claims 21 and 48 have additional recitation to those of independent claim 9 and is therefore further patentable over the proposed combination of Kochmer, Wiley, and Karabut.

V. Rejections Based on Hamm and Kochmer.

As previously presented, claims 22-26, 30-32, and 42-47 were rejected under 35 U.S.C. §103(a) as obvious over Hamm combined with Kochmer.

Independent claim 22 and independent claim 42, as amended, recite that the heating element cross-sectional portion that is unembedded in the front jaw is no less than about 0.55 times the cross-sectional thickness of the resilient portion of the rear jaw. Both Hamm and Kochmer fail to teach or suggest such a dimensional relationship between the unembedded portion of the heating element and the resilient portion of the rear jaw. Thus, the proposed combination of Hamm and Kochmer as conceivably applied to amended claim 22 or 42 does not render the claimed invention obvious because the combination fails to teach or suggest all of the claim recitations. MPEP §2143.03.

Dependent claims 23-26 and 30-32 include additional recitations to those of independent claim 22 and are therefore further patentable over the combination of Hamm and

Kochmer. Dependent claims 43-47 include additional recitations to those of independent claim 42 and are therefore further patentable over the combination of Hamm and Kochmer.

Dependent claim 32 was also rejected as obvious over Hamm and Kochmer further combined with Wiley; however, Wiley fails to supplement the above-noted shortcomings of the combination of Hamm and Kochmer.

VI. Rejections Based on Bergevin or Kochmer Combined with Wiley.

Claims 33 and 38-40 were rejected under 35 U.S.C. § 103(a) as obvious in view of U.S. Patent 4,981,546 to Bergevin combined with Wiley. Claims 33 and 41 were rejected under 35 U.S.C. § 103(a) as obvious in view of Kochmer combined with Wiley.

Bergevin is directed to a device for sealing and severing thermoplastic films. (Column 2, lines 30-32.) Kochmer teaches a heat sealer with a heat-sealing wire 16 that is disposed in a longitudinally extending groove 15 in the bar. (Column 2, lines 6-16; Fig. 3.) Wiley teaches "Teflon-coated Kapton" (i.e., Teflon-coated polyimide) as an electrically insulating layer to cover the nichrome ribbon of an impulse sealer. (Page 575, column 2.)

Independent claim 33 recites that the front jaw release sheet includes an *unreinforced* release material that *consists essentially of fluoroplastic* material. As the previous Office Action stated, both Bergevin and Kochmer fail to teach a front jaw release sheet including an unreinforced material. (Office Action mailed Oct. 22, 2002 at page 10, lines 12-13 and page 11, lines 10-11.)

Wiley fails to teach or suggest an unreinforced release material *consisting essentially of* fluoroplastic material. The claim recitation "consisting essentially of" has a special meaning in patent law. When the phrase is used with a clause in the body of a claim, it limits the clause to only the specified materials that follow and those additional materials "that do not materially affect the basic and novel characteristics" of the recited elements of the clause. MPEP §2111.03.

In claim 33, the term "fluoroplastic material" follows the "consisting essentially of" recitation. Fluoroplastic is a material having a basic release characteristic that helps prevent a

film from sticking to the heating element. Another example of a material having this basic release characteristic is polyimide. (Application, page 7, lines 13-19.) However, polyimide is not a fluoroplastic material, as is well known in the art. Given that "fluoroplastic" follows the "consisting essentially of" phrase – it follows that polyamide is *excluded* as a material component of the claimed unreinforced material because polyimide would materially affect the basic release characteristic of the unreinforced material.

Thus, the combination of Bergevin and Wiley does not render the invention of claim 33 obvious because the combination fails to teach or suggest all of the claim recitations – namely, an unreinforced release material that consists essentially of fluoroplastic material. *See* MPEP §2143.03.

Dependent claims 38-41 include additional recitations to that of independent claim 33 and are therefore further patentable over the combination of Bergevin and Wiley or Kochmer and Wiley.

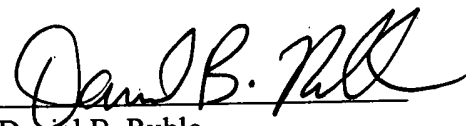
VII. Conclusion

In view of the above amendments and these remarks, it is respectfully submitted that the present application is in condition for allowance. A notice to that effect is earnestly and respectfully requested.

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ATTACHMENT

Version with Markings to Show Changes Made

In the Claims:

Claims 9, 12, 18-20, 22, and 42 have been amended as follows:

9. (Amended) A device for heat sealing at least two thermoplastic films together, the device comprising:

front and rear opposing jaws moveable between an open position defining a zone for inserting the at least two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other to compress the at least two thermoplastic films together, the rear jaw including a resilient portion facing the front jaw;

a front jaw release sheet positioned between the insertion zone and the front jaw when the front and rear jaws are in the open position; and

a heating element positioned between the front jaw release sheet and the front jaw, wherein the front jaw release sheet engages the heating element when the front and rear jaws are in the closed position and disengages from the heating element when the front and rear jaws are in the open position and wherein the resilient portion of the rear jaw faces the heating element so that the resilient portion conforms to the shape of the heating element when the front and rear jaws are in the closed position.

12. (Amended) A The device for heat sealing at least two thermoplastic films together, the device of claim 9 further comprising:

front and rear opposing jaws moveable between an open position defining a zone for inserting the at least two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other to compress the at least two thermoplastic films together, the rear jaw including a resilient portion facing the front jaw;

a front jaw release sheet positioned between the insertion zone and the front jaw when the front and rear jaws are in the open position; and

a heating element positioned between the front jaw release sheet and the front jaw, wherein the front jaw release sheet engages the heating element when the front and rear jaws are in the closed position and disengages from the heating element when the front and rear jaws are in the open position; and

at least one spacer attached to the front jaw release sheet, wherein the front jaw release sheet is disengaged from the heating element when the front and rear jaws are in the open position.

18. (Amended) The device of claim 9 wherein:

the heating element and the resilient portion of the rear jaw each have a given cross-sectional thickness; and

the cross-sectional thickness of the heating element portion that is unembedded in the front jaw is no less than about 0.55 times the cross-sectional thickness of the resilient portion.

19. (Amended) The device of claim 18 wherein the cross-sectional thickness of the heating element portion that is unembedded in the front jaw is no less than the cross-sectional thickness of the resilient portion.

20. (Amended) The device of claim 18 wherein the cross-sectional thickness of the heating element portion that is unembedded in the front jaw is no less than about twice the cross-sectional thickness of the resilient portion.

22. (Thrice Amended) A device for simultaneously heat sealing and severing at least two thermoplastic films, the device comprising:

front and rear opposing jaws moveable between an open position defining a zone for inserting the at least two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other, the rear jaw including a resilient portion facing the front jaw, the resilient portion having a given cross-sectional thickness;

a front jaw release sheet positioned between the insertion zone and the front jaw when the front and rear jaws are in the open position; and

~~an unembedded~~ heating element positioned between the front jaw release sheet and the front jaw, wherein the cross-sectional portion of the heating element that is unembedded in the front jaw is ~~having a cross-sectional thickness~~ no less than about 0.55 times the cross-sectional thickness of the resilient portion.

42. (Thrice Amended) A device for simultaneously heat sealing and severing at least two thermoplastic films, the device comprising:

front and rear opposing jaws moveable between an open position defining a zone for inserting the at least two films between the front and rear jaws and a closed position in which the front and rear jaws are proximate each other to compress the at least two thermoplastic films together, the rear jaw having a resilient portion facing the front jaw, the resilient portion having a given cross-sectional thickness; and

~~an unembedded~~ heating element positioned between the insertion zone and the front jaw, wherein the cross-sectional portion of the heating element that is unembedded in the front jaw is ~~having a cross-sectional thickness~~ no less than about 0.55 times the cross-sectional thickness of the resilient portion.